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UNITED STATES PATENT APPLICATION FOR GRANT OF LETTERS PATENT

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Windshield Wiper Flag Holder

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WINDSHIELD WIPER FLAG HOLDER

FIELD OF THE INVENTION

The present invention relates to flag holders, and more particularly, to a flag holder that is adapted to be detachably mounted to a windshield wiper.

BACKGROUND OF THE INVENTION

Flag holders are very common today. They are typically mounted on vehicles, residential structures, boats, motorcycles, and other stationary and moving objects. These flag holders are adapted to support and hold flags of all types. Patriots commonly use flag holders to display their national flags. Sports fans and others find pleasure in displaying and erecting flags representative of universities and other educational schools and institutions.

In this regard, one of the most popular flag holders is a device that clamps between a roll-up window and the doorframe of a vehicle. It is common to see university flags held by such devices and waving in the wind on a Saturday afternoon in the fall around a major university. In addition, there are flag holders commercially available that are supported from the trailer hitch of a vehicle.

The present invention relates to a moving flag holder that is movable by virtue of being designed to be detachably secured to a vehicle windshield wiper.

SUMMARY OF THE INVENTION

The present invention entails a flag holder that is adapted to be connected to the wiper arm of a windshield wiper.

In one embodiment, the windshield wiper flag holder includes a bracket assembly having first and second sections that are securable together by one or more fasteners.

When fastened around a windshield wiper, a portion of the wiper arm extends through an opening formed interiorly of the two sections. A holder or securing device forms a part of the bracket assembly and is adapted to receive and hold a flag.

In one particular embodiment, the windshield wiper flag holder of the present invention includes first and second sections with each section including a web and a pair of spaced apart flanges. Bolts or screws are extended through portions of the flanges of the two sections so as to couple or secure the two sections together. A boss is formed on one section and includes an elongated flag shaft opening formed therein for receiving and holding the shaft or other type of support associated with a flag. When the first and second sections are secured together and disposed around the arm of the windshield wiper, the flag shaft opening in the boss is disposed at an angle with respect to the portion of the arm of the windshield wiper that extends through the two sections.

Further, the present invention includes a method for mounting a flag holder. This method includes securing the flag holder to a windshield wiper such that as the windshield wiper moves back and forth the flag holder moves back and forth with the windshield wiper.

Other objects and advantages of the present invention will become apparent and obvious from a study of the following description and the accompanying drawings which are merely illustrative of such invention.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 shows a windshield wiper having the flag holder of the present invention secured thereto.

Figure 2 is a perspective view similar to Figure 1, but wherein the components of the flag holder are shown exploded.

Figure 3 is a cross sectional view of the flag holder of the present invention.

DESCRIPTION OF EXEMPLARY EMBODIMENT

With further reference to the drawings, the windshield wiper flag holder of the present invention is shown therein and indicated generally by the numeral 10. As will be appreciated from subsequent portions of this disclosure, the windshield wiper flag holder 10 is designed to be detachably secured to the wiper arm 34 of a windshield wiper indicated generally by the numeral 32. In Figures 1 and 2, there is shown therein a windshield or glass panel 30. Windshield or glass panel 30 can constitute any type of glass panel that has a movable wiper associated therewith. For example, the windshield or glass panel 30 can be either a front, rear or side glass panel of any type of vehicle. As seen in Figures 1 and 2, windshield wiper 32 is secured by a bracket such that it extends over an exterior portion of the windshield or glass panel 30. In conventional fashion, windshield wiper 32 is driven such that it oscillates back and forth across the windshield or glass panel 30.

Turning to a more detailed discussion of windshield wiper flag holder 10, the same basically includes a bracket or bracket assembly indicated generally by the numeral 12. Bracket or bracket assembly 12 is designed to fit securely around a portion of the wiper arm 34 that forms a part of the windshield wiper 32. In the case of the present embodiment, the bracket 12 can assume two modes. In one mode the bracket 12 can be detached from the windshield wiper 32 and in a second mode the bracket 12 can be securely stationed on the wiper arm 34 such that the bracket or bracket assembly 12 is held thereon and moves back and forth with the windshield wiper 32 as it oscillates adjacent the windshield glass panel 30.

In the case of the particular embodiment shown herein, the bracket or bracket assembly 12 includes first and second sections. Each section includes a web 14 and a pair of spaced apart flanges 16. Consequently, each section assumes a generally C-

shape. Although the shape and size of each section may vary, in one particular embodiment, the flanges 16 of each section are structured such that they extend in a non-parallel relationship. More particularly, the flanges 16 of each section slightly diverge from one end of the section to the other end of the section. See Figure 2. This can, of course, vary and the flanges could very well be parallel. One of the reasons for particularly orienting the flanges 16 a certain way would be to accommodate the size and/or shape of the wiper arm 34 that the bracket or bracket assembly 12 extends around. In the case of the embodiment illustrated herein, as noted above, flanges 16 diverge. When the two sections are secured together, because they are each channel shaped there is defined between the two sections a wiper arm opening. That is when fastened together, the two sections form an opening through which the wiper arm 34 extends through. In the case of the embodiment illustrated herein, because the flanges 16 diverge from one end to another end, it follows that the cross sectional area of the wiper opening defined between the two sections varies. In addition, the cross sectional area of the wiper arm opening can be varied by slightly angling the inner surfaces of the respective webs 14. For example, in Figure 3, note that the thickness of the respective webs 14 vary from one end of each section to another end. As illustrated in Figure 3, the cross sectional area of the wiper arm opening increases from left to right. As noted above, the cross sectional area of the wiper arm opening can vary to accommodate particular sizes of wiper arms. In some cases the wiper arm in the area of connection may have a cross sectional area that is constant. In this case, the cross sectional area of the wiper arm opening of the flag holder would be constant from one end to the other. However, in many cases, the cross sectional area or thickness of the wiper arm will become progressively smaller from a lower point on the wiper arm to an upper point on the wiper arm. In this case, in order for the windshield wiper flag holder 10 to fit securely

around the wiper arm, it is beneficial to design the sections of the bracket assembly 12 such that the interior surfaces of the sections fit snugly around the wiper arm 34.

The bracket or bracket assembly 12 can assume various sizes. Its strength may be enhanced by providing ribs in the two sections.

Formed on one of the two sections is a flag holding device or structure indicated generally by the numeral 20. In this case, the flag holding device includes a boss 22. Boss 22 can be integrally formed such as through a molding process or can be secured by fasteners or other means to one of the two sections. Formed in the boss 22 is a flag shaft opening 24. As will be discussed below, the support or shaft 36 of a flag 34 can be extended into the opening 24. While the opening 24 may assume various shapes, a square or rectangular shape may be beneficial. Formed in the sidewall of the opening 24 is one or more set screws 26 that can be screwed into engagement with the shaft or support 36 that forms a part of the flag.

As discussed above, the two sections of the bracket assembly 12 are designed to fit around or extend around the wiper arm 34. Because in this embodiment the bracket assembly assumes two sections, there is provided one or more fasteners 28 for securing the two sections of the bracket assembly 12 together. The fasteners 28 may assume various forms, for example, screws or bolts. In one typical embodiment, the fasteners are extended through portions of the flanges 16 of the respective sections. See Figures 2 and 3. Screws or bolts can be extended through apertures in the flanges 16 of one section and screwed into threaded openings in the flanges 16 of the other section. Those skilled in the art will understand and appreciate that there are various ways to fasten or secure the two sections together such that the two sections, once secured together, will be firmly secured around the wiper arm 34.

In the embodiment illustrated herein, the section of the bracket assembly 12 having the holding device 20 mounted thereon is designed to assume a position along

the outer side of the wiper arm 34. This is illustrated in Figures 1 and 2. Note that the opening 24 formed in the boss 22 is disposed at an angle A with respect to the wiper arm portion that extends through the two sections. See Figure 3. As illustrated in Figures 1 and 3, the axis of the opening 24 projects outwardly from the windshield wiper 32. Angle A lies between the axis of the opening 24 and the axis of the arm opening that extends through the two sections of the bracket assembly 12 when secured together. For example, angle A can range from approximately 15° to 75°. In one particular embodiment, the angle is approximately 45°.

Various materials can be used for the windshield wiper flag holder 10 of the present invention. That is, the windshield wiper flag holder 10 can be constructed of plastic, vinyl, nylon or any other suitable material that is generally weather resistant. The type of flags that can be held or supported by the windshield wiper flag holder 10 are traditional flags, pennants, insignias, logos, etc.

It follows that the bracket assembly 12 can be designed to fit various sizes and shapes of wiper arms 34. It is appreciated that the section of the bracket assembly that fits adjacent the glass panel 30 should be sized such that there is sufficient clearance between the web 14 thereof and the glass panel such that there is no interference, rubbing or scratching between the outer surface of the section and the glass panel. One of the principal advantages of the present invention is that the flag holder is designed to be mounted to a movable windshield wiper. Therefore, when a flag 34 and its accompanying support 36 is secured within the opening 24 of the boss 22, it follows that when the windshield wiper 32 is oscillated back and forth that this will result in the flag 34 being waved automatically. Further, the windshield wiper flag holder 10 of the present invention can be easily attached and detached from the windshield wiper 32, as outlined above.

The present invention may, of course, be carried out in other specific ways than those herein set forth without departing from the scope and the essential characteristics of the invention. The present embodiments are therefore to be construed in all aspects as illustrative and not restrictive and all changes coming within the meaning and equivalency range of the appended claims are intended to be embraced therein.